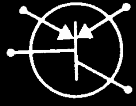
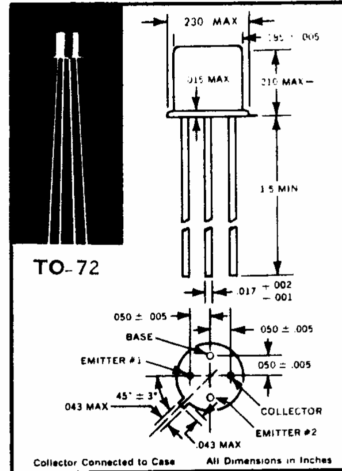


HIGH VOLTAGE
SILICON EPITAXIAL JUNCTION
INTEGRATED CHOPPER TRANSISTOR

3N108
3N109
3N110
3N111

- LOW LEAKAGE
- LOW C_{eb}
- LOW r_{EE} (sat)
- HIGH V_{EE} & V_{EB}



ELECTRICAL DATA ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	3N108/109	3N110/111	UNITS
Collector-Base Breakdown Voltage	BV_{CBO}	-50	-50	V
Emitter-Base Breakdown Voltage	BV_{E_1BO}	-50	-30	V
Emitter-Base Breakdown Voltage	BV_{E_2BO}	-50	-30	V
Emitter To Emitter Breakdown Voltage	$BV_{E_1E_2O}$	±50	±30	V
Emitter (1) To Collector Breakdown Voltage	BV_{E_1CO}	-50	-30	V
Emitter (2) To Collector Breakdown Voltage	BV_{E_2CO}	-50	-30	V
DC Collector Current	I_C	20	20	mA
DC Base Current	I_B	20	20	mA
DC Emitter Current	I_E	10	10	mA
Power Dissipation (Free Air)	P_C	300mW Derating 1.7mW/°C		
Junction Temp. (Oper. & Store)	T_J	-65°C to +200°C		
Lead Temp. (1/16" ±1/32" From Case)	T_L	300°C for 10 Sec.		

ELECTRICAL CHARACTERISTICS: T_A = 25°C (UNLESS OTHERWISE STATED)

PARAMETER	SYMBOL	CONDITION	3N108/110 MIN.	3N108/110 MAX.	3N109/111 MIN.	3N109/111 MAX.	UNITS
Offset Voltage	$V_{E_1E_2O}$	I_B = 1mA, Temp: -25/+25/+100°C		30		150	µV
Offset Voltage Change	$\Delta V_{E_1E_2O}$	I_B = 1mA, Temp: -25 to +100°C		50		150	µV
Offset Voltage Change	$\Delta V_{E_1E_2O}$	ΔI_B: 0.5 to 1.5 mA		20		50	µV
Saturation Resistance	$r_{E_1E_2}$	I_B = 1mA, I_{EE} = 10µA, f = 1KC	10	50	10	50	Ohms
			3N108/109		3N110/111		
Emitter-Base Leakage Current	I_{E_1BO} I_{E_2BO}	V_{EB} = -25V		0.1		0.5	nA
Emitter-Emitter Leakage Current	$I_{E_1E_2O}$	V_{EE} = ±25V, V_{CB} = 0 (SHORTED)		0.1		0.5	nA
Emitter-Emitter Leakage Current	$I_{E_1E_2O}$	V_{EE} = ±25V Temp: 100°C		10		50	nA
Collector-Base Leakage Current	I_{CBO}	V_{CB} = -30V, I_{E_1} = I_{E_2} = 0		0.25		0.5	nA
Emitter-Base Capacitance	Ceb	V_{EB} = -6v, Ic = 0, f = 1Mc		3		3	pfd
Collector-Base Capacitance	Cob	V_{CB} = -6v, I_{E_1} = I_{E_2} = 0, f = 1Mc		10		10	pfd
Forward Current Gain	hfe	V_{CE} = 6.0V, I_C = 1mA, f = 4mC	3	-	3	-	

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